PROCEEDINGS

OF THE

MADRAS GOVERNMENT

IN THE

PUBLIC WORKS DEPARTMENT,

IRRIGATION BRANCH,

FOR THE

MONTH OF FEBRUARY 1890.

Printed by Authority.

MADRAS:
PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRESS.

1890.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following paper :—

No. 19 I.

Note by the Chief Engineer for Irrigation.

The accompanying statement showing the amounts of estimates sanctioned under each sub-head for the Periyár project, the expenditure incurred against them up to the end of October 1889, and the unexpended balances of the estimates, is submitted to Government for an extension of sanction to the project, the sanction accorded by the Secretary of State in October 1884 having, under para. 1509 of the Public Works Code, expired in October 1889. The expenditure shown in this statement has been verified by the Examiner of Public Works Accounts. The project was sanctioned at an estimated cost of Rs. 64,39,913, Rs. 61,85,000 being for direct charges and Rs. 2,54,913 for indirect charges. Owing to the omission of the sum of Rs. 8 lakhs provided under the former head as compensation to the Travancore Government for the site of the head works and to the transfer from the latter to the former of Rs. 40,000 on account of loss by exchange, the total amount of sanction was, in G.O., No 51 I., dated 23rd January 1888, reduced to Rs. 54,25,000 *under* direct charges and to Rs. 2,14,913 under indirect charges. This reduction was approved by the Government of India in its letter, No. 90 I., dated 14th May 1888, printed with G.O., No. 313 I., dated 1st June 1888.

2. Of the reduced estimate of direct charges, Rs. 40,69,332 are for works, Rs. 9,05,668 for Establishment and Rs. 4,50,000 for Tools and Plant.

3. The detailed estimates already sanctioned for works aggregate Rs. 38,01,131 and the lump sums against which estimates will be sanctioned in due course amount to Rs. 2,68,201. The expenditure incurred to the end of October 1889 was Rs. 11,61,189 as shown below :—

	RS.
Works	7,40,609
Establishment	1,46,560
Tools and Plant	2,74,020
Total ...	11,61,189

The unspent balance of the sanction on 1st November 1889 was Rs. 42,63,811.

4. As expenditure has to be incurred on almost every item of the project estimate and as no modifications of importance have been made or are known to be required, there appears to be no necessity to send a list of "important works still to be carried out to complete the project" as laid down in para. 1509 of the Public Works Code.

5. Though the project was sanctioned in 1884, the work was really begun only in 1887. It is recommended that the Government of India may be requested to extend the sanction to the project for a further period of 5 years or till the end of 1894-95.

PENUMUDI,
9th February 1890.

(Signed) G. T. WALCH,
Chief Engineer for Irrigation.

To the Acting Secretary to Government,
Public Works Department.

ENCLOSURE.

Periyár Project Works.

STATEMENT showing the amounts of the sanctioned estimates, the expenditure incurred against them up to the end of October 1889, and the unexpended balance of estimates for which renewed sanction is required, *vide* Public Works Code, para. 1509.

Main head.	Sub-head.	Amount sanctioned in G.O., No. 51 I., dated 23rd January 1888.	Detailed estimate sanctioned.	Lump sums provided.	Total of columns 4 & 5.	Expenditure to end of October 1889.	Unexpended balance.	Total of columns 7 & 8.
1	2	3	4	5	6	7	8	9
	CAPITAL EXPENDITURE ON PUBLIC WORKS NOT CHARGED TO REVENUE.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
	49. IRRIGATION.							
	No. I. Periyár division.							
(1) Head works.	A. Preliminary expenses ..	85,000	79,079	5,541	84,620	80,355	4,265	84,620
	C. Works	15,69,020	15,69,020	..	15,69,020	2,55,150	13,13,870	15,69,020
	K. Buildings	1,47,000	1,16,163	26,038	1,42,201	89,234	52,967	1,42,201
	O. Miscellaneous	46,000	66,106	1,640	67,746	63,742	4,004	67,746
	P. Maintenance	63,980	674	63,306	63,980	259	63,721	63,980
	Total ..	19,11,000	18,31,042	96,525	19,27,567	4,88,740	14,38,827	19,27,567
	No. II. Periyár division.							
(2) Main canals and branches.	A. Preliminary expenses ..	18,000	19,141	..	19,141	18,740	401	19,141
	B. Land	1,14,535	1,14,535	..	1,14,535	16,143	98,392	1,14,535
	D. Regulators	1,09,890	66,470	..	66,470	18,474	47,996	66,470
	E. Falls and weirs	22,190	22,840	..	22,840	5,666	17,174	22,840
	F. (1) Other cross drainage works	5,83,270	5,72,005	..	5,72,005	30,929	5,41,076	5,72,005
	G. Bridges	60,200	70,247	..	70,247	8,523	61,724	70,247
	K. Buildings	10,000	3,617	6,520	10,137	4,385	5,752	10,137
	L. Earthwork	3,95,915	4,02,855	..	4,02,855	1,34,996	2,67,859	4,02,855
	P. Maintenance	53,000	..	53,000	53,000	649	52,351	53,000
	O. Miscellaneous	..	1,040	..	1,040	5	1,035	1,040
	Total ..	13,67,000	12,72,750	59,520	13,32,270	2,38,510	10,93,760	13,32,270
(3) Distributaries.	A. Preliminary expenses ..	10,000	7,741	1,559	9,300	7,815	1,485	9,300
	B. Land	69,285	69,285	..	69,285	..	69,285	69,285
	C. Works	2,86,650	2,73,248	5,000	2,78,248	2,154	2,76,094	2,78,248
	L. Earthwork	2,82,215	2,82,215	..	2,82,215	3,390	2,78,825	2,82,215
	O. Miscellaneous	64,850	64,850	..	64,850	..	64,850	64,850
	P. Maintenance	40,000	..	40,000	40,000	..	40,000	40,000
	Total ..	7,53,000	6,97,339	46,559	7,43,898	13,359	7,30,539	7,43,898
	Provision for unforeseen works.	38,332	..	* 65,597	65,597	..	65,597	65,597
	Total for works	40,69,332	38,01,131	2,68,261	40,69,332	7,40,609	33,28,723	40,69,332
	Establishment	9,05,668	..	9,05,668	9,05,668	1,46,560	7,59,108	9,05,668
	Tools and plant	4,50,000	2,71,559	1,78,441	4,50,000	2,74,020	1,75,980	4,50,000
	Grand Total ..	54,25,000	40,72,690	13,52,310	54,25,000	11,61,189	42,63,811	54,25,000

* Inclusive of savings effected by detailed estimates.

(Signed) G. T. WALCH,
Chief Engineer for Irrigation.

ORDER—dated 17th February 1890, No. 100 I., Public Works.

The permission of the Government of India to the extension of sanction to the Periyár project till the end of 1894-95 as proposed by the Chief Engineer for Irrigation will be solicited.

2. The following letter will be sent to the Government of India.

(Here enter No. 101 I., dated 17th February 1890).

(True Extract.)

(Signed) G. T. WALCH,
Ag. Secretary to Govt., P.W.D.

To the Chief Engineer for Irrigation.
" Chief Engineer, Periyár Project.
" Examiner, Public Works Accounts.
" Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of {1890} Madras.

PUBLIC WORKS.

Dated February, 17th.

Recd. *Encl.*

G.O., 17th Feb. 1890, No. 100 I.

FEBRUARY.

Periyar Project

The Government of India requested to extend the sanction to the — till the end of 1894-95.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

LETTER—from

G. T. WALCH, ESQ.,
Ag. Secretary to the Government of Madras,
Public Works Department.

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
PUBLIC WORKS DEPARTMENT.

SIR,

In forwarding herewith a copy of Proceedings of Madras Government, No. 100 I., dated 17th February 1890, I am directed to request that the Government of India will be pleased to extend to the end of 1894-95 the sanction to the Periyár project, communicated in its letter, No. 90 I., dated 10th May 1886, that sanction having expired in October 1889.

I have the honor to be,
Sir,
Your most obedient servant,

(Signed) G. T. WALCH,
Ag. Secretary to Govt., P.WD.

CHEPÂK,
17th February 1890.

IRRIGATION.
ACCOUNT.

Govt. of {1890} Madras.

PUBLIC WORKS.

Dated February, 17th.

Recd. *Encl.*

17th Feb. 1890, No. 101 I.

FEBRUARY.

Periyar Project

Requesting to extend the sanction to the
— to the end of 1894-95.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following papers:—

From Colonel J. PENNYCUICK, R.E., Chief Engineer, Periyár Project, to the Chief Engineer for Irrigation, dated Periyár, 23rd January 1890, No. 124 P.R.

I have the honor to forward, for your approval and sanction, the enclosed statement showing redistribution of allotments for Nos. I and II Periyár divisions for the current official year.

2. In No. I division a considerable extra expenditure has been found necessary on buildings and on "Tools and plant," the former being due chiefly to slower progress than was expected during last year, and partly to the cost of repairing the damage done by the storm in July, which unroofed two of the principal buildings.

3. The extra expenditure on tools and plant is due chiefly to machinery from England which was expected to be paid for in 1888-89 not having been paid for till this year.

4. In order to meet these charges a reduction has been made in the provision for the four principal works (items 1 to 4), but I should be glad if additional funds could be made available so as to avoid a portion of this reduction. The progress during the last two months has been greater than was expected, and the labor supply is always greater in January and February than at any other time of the year. I believe that Rs. 20,000 in addition to the existing grant could be utilized.

5. In No. II division, as in No. I the total grant remains unaltered, the principal alterations being the provision of a total sum of Rs. 15,400 for expenditure in the 5th reach and Rs. 7,678 for the 3rd branch channel, and an increase of Rs. 16,797 in the provision for the excavation of the 3rd reach, balanced by reductions on individual works, chiefly masonry works.

6. The latter are very backward owing to difficulties in getting in foundations; when this stage is passed they will probably catch up the earthwork which is a good deal ahead at present.

7. I would suggest for consideration whether for the purpose of distribution of grants each branch channel might not be considered as a single work. The individual works on each branch channel are for the most part very insignificant, and it appears quite useless to make separate allotments for such items as Nos. 51—58 or 62—71.

From the same officer, dated Periyár, 3rd February 1890, No. 226 P.R.

In reply to your No. 8 M.D. of 30th January 1890, I have the honor to state that, as far as I can ascertain, the state of Mr. Taylor's credit appears to be as follows:—

	RS.	RS.
Total grant for the year—		
Works	2,12,420	
Tools and plant	29,392	
		2,41,812
The expenditure to end of January is—		
Works	1,64,379	
Tools and plant	44,498	
		2,08,877
Available balance of grant		32,935

subject to possible slight correction as regards the expenditure for January.

	RS.
He has in cash	26,544
In Treasury	2,457
Letter of credit	4,213
Total ...	33,214

or practically just the available balance of the grant for "Works" and "Tools and plant."

2. This calculation, however, requires to be corrected as follows:—

The establishment charges for February and March, about Rs. 17,500, have to be met in addition to the expenditure on works; the stock is at present Rs. 10,000 against a sanctioned sum of Rs. 20,000, and a credit of Rs. 10,000 above the amount of grants is I believe admissible; on the other hand Rs. 10,000 is outstanding for miscellaneous advances (chiefly for rice) and should be recovered during the year.

3. It appears from this that the Executive Engineer is entitled to demand credit for an additional sum of Rs. 17,500 (establishment) + 10,000 (stock) + 10,000 (extra credit) — 10,000 (advances) or Rs. 27,500, and I do not understand the Examiner's statement that credits have been given to the full extent admissible, leaving all question of an extra grant out of consideration.

4. What the actual expenditure will be it is hard to say; the expenditure in January was Rs. 32,374 for works, Rs. 6,194 for tools and plant, and Rs. 8,828 for establishment, a total of Rs. 47,396.

5. The cash expenditure in February and March will hardly be as heavy as this because we have already paid for a large quantity of lime, cement and explosives which are now being used up, but I do not think the expenditure on works and tools and plant is likely to be less than Rs. 25,000 for each month * which with establishment charges would make a total of about Rs. 67,000 or Rs. 6,000 in excess of the amount in hand at the beginning of February (Rs. 33,214) *plus* the additional credit of Rs. 27,500 to which, as explained in para. 3, the Executive Engineer appears to be entitled; and this balance will probably be recovered by the sale of rice.

* Making Rs. 17,000 in excess of the year's grant.

6. Practically therefore the credit of Rs. 27,500, to which the Executive Engineer is entitled, is sufficient to cover his probable further expenditure in February and March, but looking to the importance of pushing on work as much as possible during these two months, which are by far the most favorable of the year, I would suggest that the Examiner be instructed to grant further credit up to a total of Rs. 30,000 if asked for by the Executive Engineer, and that the Government of India be asked to sanction an additional grant of Rs. 20,000.

Office note to the Examiner, Public Works Accounts, dated 7th February 1890, No. 8.

Please peruse the accompanying letter and let me know the correct balance to which the Executive Engineer, No. I Periyár Division, is entitled to apply for credits for March next.

Office note from the Examiner, Public Works Accounts, dated 11th February 1890, No. 727.

Telegram from the Chief Engineer, Periyár Project, to the Chief Engineer, Public Works Department, dated Periyakulam, 12th February 1890.

Ten thousand rupees available for transfer from number 2 division for number 1.

Telegram from the Chief Engineer, Public Works Department, to the Superintending Engineer, II Circle, dated 13th February 1890, No. 2-II.

Can you spare from your circle grants under 49. Rs. 10,000 required for Periyár.

Telegram from the Superintending Engineer, II Circle, to the Chief Engineer for Irrigation, dated Bezváda, 13th February 1890.

Can spare no grant under 49. Kistna Delta.

ORDER—dated 17th February 1890, No. 102 I., Public Works.

It is observed that the credit of Rs. 20,000 issued under G.O., No. 82 I., dated 8th February 1890, to the Executive Engineer, No. 1 Periyár Division, exceeds the sum to which he is entitled to apply by Rs. 10,059. The Chief Engineer, Periyár Project, having in his telegram, dated the 12th instant, intimated that Rs. 10,000 are available for transfer from No. 2 Periyár division, this sum is transferred to No. 1 Periyár division. To cover expenditure on stock to the full extent of the sanctioned limit of Rs. 20,000, the Examiner of Public Works Accounts is authorized to issue to the Executive Engineer further credit of Rs. 10,000 should he apply for it.

2. The Government of India will be requested to sanction an additional allotment of Rs. 10,000 for the project.

3. The existing grant of Rs. 7,40,000 for the project will be distributed by divisions as shown below:—

	No. 1 Division.	No. 2 Division.	Total.
	RS.	RS.	RS.
Works	2,09,485	3,60,018	5,69,503
Establishment	48,181	74,314	1,22,495
Tools and plant	43,002	5,000	48,002
Total ...	3,00,668	4,39,332	7,40,000

With reference to para. 7 of his letter No. 124 P.R., dated 23rd January 1890, the attention of the Chief Engineer, Periyár Project, is invited to G.O., No. 125 W., dated 16th January 1890, under which the distribution by works of the grant for each division does not require the sanction of Government.

4. The following deferred telegram will be sent to the Government of India:—

" *To the Secretary to the Government of India, Public Works Department.*

" Additional grant Rs. 10,000 urgently required for Periyár. Please wire sanction."

The following letter will be sent to the Government of India.

(Here enter No. 103 I., dated 17th February 1890.)

(True Extract.)

(Signed) G. T. WALCH,
Ag. Secretary to Govt., P.W.D.

To the Chief Engineer for Irrigation.
„ Chief Engineer, Periyár Project.
„ Examiner, Public Works Accounts.
„ Revenue Department.
„ Superintending Engineer, II Circle.

IRRIGATION.
ACCOUNT.

Govt. of {1890} Madras.

PUBLIC WORKS.

1

Dated February, 17th.

Recd. *Encl.*

G.O., 17th Feb. 1890, No. 102 I.

FEBRUARY.

Periyar Project

Orders on letter from the Chief Engineer, Periyár Project, requesting sanction to a redistribution of allotments for Nos. I and II Periyár divisions, and the Government of India requested by telegram to sanction an additional grant of Rs. 10,000 for the —.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

Letter—from

G. T. WALCH, Esq.,

Ag. Secretary to the Government of Madras,
Public Works Department,

To

The SECRETARY to the GOVERNMENT of INDIA,
Public Works Department.

Sir,

In continuation of my telegram, dated 17th instant, requesting an additional allotment of Rs. 10,000 for the Periyár project, I am directed to forward herewith a copy of Proceedings of Madras Government, No. 102 I., dated 17th February 1890, together with the statement required to accompany an application for additional allotment.

I have the honor to be,
Sir,
Your most obedient servant,

(Signed) G. T. WALCH,
Ag. Secretary to Govt., P.W.D.

Chepâk,
17th February 1890.

IRRIGATION.
ACCOUNT.

Govt. of {1890} Madras.

PUBLIC WORKS.

Dated February, 17th.

Recd. *Encl.*

G.O., 17th Feb. 1890, No. 103 I.

FEBRUARY.

Periyar Project

Forwarding copy of Proceedings requesting an additional allotment of Rs. 10,000 for the —.

Statement to accompany the Application for an additional grant of Rs. 10,000 for the Periyár Project.

Major and minor heads of accounts under which the proposed expenditure will fall.	Sanctioned grants for major and minor heads.	Recorded outlay against the grants by latest available accounts.	Proposed reductions in sanctioned grants from which the expenditure will be met.	Explanation, if no reappropriation is considered possible. In such cases the urgency and necessity for the outlay must also be explained.
CAPITAL EXPENDITURE ON PUBLIC WORKS NOT CHARGED TO REVENUE.	RS.	RS.	RS.	
49. *Irrigation.*				
Periyár Project	7,40,000	4,40,532 to end of December.	*Nil.*	An additional grant of Rs. 10,000 is required as the progress of work in the No. 1 Periyár division during the last two months has been greater than was expected. Labor supply in January and February is always greater than at any other time of the year. The amount required cannot be provided from the existing grant of any other division.

(Signed) H. E. CLERK,
Under-Secy. to Govt., P.W.D.,
Irrigation Branch.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

READ—the following paper :—

No. 17 I.

Memorandum by the Chief Engineer for Irrigation.

With reference to the subjects connected with the Irrigation Branch of the Department of Public Works dealt with in the Minute of His Excellency the Governor on his eleventh tour—

1. *Duplicating the Main Canal Eastern division of the Godávari delta.*—This has frequently been suggested and has, from time to time, received consideration by the local officers of the department. There would be no serious engineering difficulty about the work, but the cost, it is believed, would be out of all proportion to the result to be obtained.

The new canal would at its head occupy valuable town lands and property in Dowlaishweram and would for the whole of its course of about $4\frac{1}{4}$ miles be in deep cutting ; it would of course require special head sluices and either a lock or flood-stop gates to exclude river floods.

The advantage gained would be the keeping open communication by one of the lines of canal between the Godávari at Dowlaishweram and Cocanada for the *one month* a year, during which, under present circumstances, all the canals of the Eastern division have to be closed ; that month is always arranged to fall in the period during which the Kistna canals can have no water in them and at the same time the canals of the other portions of the Godávari delta are closed for the absolutely necessary examination of head-works foundations and for repairs of masonry works and silt clearances, so that during the month for which the duplicated canal would be of use the through traffic possible would be only that between Cocanada and Rajahmundry and Dowlaishweram, from which places there are two good roads to Cocanada. Para. 4 of letter from the Superintending Engineer, I Circle, No. 159 G.D., dated 11th April 1888, printed with Proceedings of Madras Government No. 390 R., dated 10th May 1888, deals with this subject.

2. The old rough arrangements for closing the "under sluices" in the right flank of the Bezváda anicut noticed by His Excellency are about to be replaced by proper shutters worked by screw gearing like those in the similar sluices at the other end of the anicut.

3. His Excellency's wishes regarding the occupation of the right berm of the Western delta main canal near its head by a passenger and goods siding of the Guntakal-Bezváda railway till the Kistna bridge is built are receiving attention. The undersigned has met Mr. LaTouche at the place and discussed arrangements with him and a survey, which is necessary before details can be settled, is being made. To do the whole of the canal widening on its left side along the base of the Sitanagaram hill would be very expensive, not improbably running into rock cutting at the bottom, but it is possible that part of the widening intended may without detriment to irrigation be deferred for three years or so till the Kistna bridge is finished, after which any permanent station or arrangements for interchange of traffic between the railway and canal should be on the south side of the Tadapalli hill near where the bridge over the canal will be ; then all traffic that comes to and goes from the railway by canal will do so from the south and not from across the river.

The original permission on which the railway came within the canal limits was irregularly given ; had the matter been referred to head-quarters, arrangements would probably have been made, which, whilst providing for the convenience of the public, would have obviated the hindrance and extra cost to canal work which have now arisen.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

Read—the following paper :—

Telegram from the Secretary to the Government of India, Public Works Department, to the Secretary to the Government of Madras, Public Works Department, dated Calcutta, 20th February 1890, No. A 60.

Your telegram seventeenth. Additional ten thousand granted for Periyár under 49.

Order—dated 25th February 1890, No. 116 I., Public Works.

Communicated to the officers concerned for information.

(True Extract.)

(Signed) G. T. WALCH,
Ag. Secretary to Govt., P.W.D.

To the Chief Engineer for Irrigation.
„ Chief Engineer, Periyár Project.
„ Examiner, Public Works Accounts.
„ Revenue Department.

IRRIGATION.
ACCOUNT.

Govt. of {1890} Madras.

PUBLIC WORKS.

Dated February, 25th.

Recd. *Encl.*

G.O., 25th Feb. 1890, No. 116 I.

FEBRUARY.

Periyar Project.

Telegram from the Government of India sanctioning an additional grant of Rupees 10,000 for the —, communicated to officers concerned.